



Parent's Preference of Rainbow Crowns Compared to Silver Stainless Steel Crowns in a Pediatric Clinic

Anthony Dally, DMD; Ashley Lebak, DMD

Introduction:

This cross-sectional study will be conducted in order to determine whether parents of patients ages 2-12 would consider rainbow stainless steel crowns an appropriate treatment option and determine a possible preference for them when compared to silver stainless steel crowns in a pediatric dental clinic. Approximately 30 parents will be recruited to participate in a survey to assess possible preference for rainbow stainless steel crowns compared to silver stainless steel crowns. The parents of the patients will be consented for the survey. There is no incentive for the patient to participate but the survey will allow for future dental providers to have another type of restoration to provide for patients with possible esthetic concerns of silver stainless steel crowns. This study will be conducted over a 6 month period at Pediatric Dental Associates of Cherry Hill. The inclusion criteria will be parents of patients ages 2-12 who are present for a recall exam or comprehensive exam. Those that will be excluded from the survey are those parents of children that do not fall in the age range of 2-12, non-English and non-Spanish speaking patients, patients who are present for a visit that is not a recall exam or comprehensive exam, and those whose parents did not consent to the survey. A statistical analysis will be completed to determine significance between choice of silver or rainbow crowns as well as reasons for preference for either type of crown.

Study Aims:

This study aims to understand whether parents have a preference for rainbow crowns compared to silver stainless steel crowns and possible reasons for their preference. The primary outcome of this study is to determine whether parents of patients ages 2-12 would consider rainbow stainless steel crowns an appropriate treatment option and determine a possible preference for them when compared to silver stainless steel crowns. A secondary outcome is to determine whether rainbow crowns are a viable option when compared to silver stainless steel crowns.

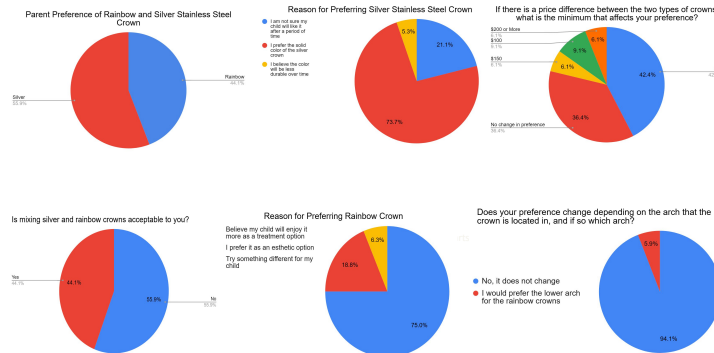
Methods

Parents of patients ages 2-12 who visit Pediatric Dental Associates of Cherry Hill for recall or comprehensive exam will be recruited for the study. Parents of these patients will be explained the study and consent will be obtained. Risks and benefits for participating in the survey will be explained to the parent. The completion of the survey will be completely voluntary and confidential. The survey will include questions about their demographic, preference of rainbow crowns compared to silver stainless steel crowns, and reasons why they have their preference. The survey will be provided in either English or Spanish. Dr. Anthony Dally will identify patients that are to be included in the study based on age of the patient and appointment type. For families with multiple children within the age range of 2-12, one survey will be completed per family. A typodont having examples of both crowns on upper and lower arches will be provided. After consent has been obtained from the parent, the survey will be distributed to each patient in the family that is in the inclusion criteria. The survey will be collected and securely recorded. Anthony Dally will be the only researcher overseeing collection of the consent forms and surveys. Once collected, the data will be exported to an Excel sheet that is password protected. The consent forms and surveys will be discarded after being shredded for protection of personal information.

Background:

Dental caries is one of the most prevalent forms of oral disease among pediatric patients (1). Untreated decay in primary teeth may lead to major issues that would result in difficulty chewing, speaking, and even natural space maintenance (1). Some challenges in treating primary teeth in pediatric patients are behavioral management and the need for a treatment that ideally lasts until the primary tooth exfoliates (1). Full coverage restorations like stainless steel crowns are the most common treatment for multisurface caries in primary teeth after first being introduced in the mid 20th century (2). Stainless steel crowns are just as durable and more cost-effective when compared to zirconia crowns or Biofx crowns (3). However, a factor that is increasingly playing a role in treatment of primary caries is esthetics (4). Both parents and children consider esthetics when selecting a full crown coverage restoration (5). Studies on child psychology are showing that the increase in social media activity is leading to children as young as 4 to be aware of their self image (4). This has led to restorations like zirconia and Biofx crowns increasing in popularity among parents as a form of full coverage restorations for their children (3). The dark metallic color of stainless steel crowns has shown to have lower satisfaction rate after a year of placement for both parent and child (4). Even so, some limiting factors with treating primary teeth with zirconia crowns are the higher costs and increased reduction of tooth structure (3). In recent years, a new form of stainless steel crown that is rainbow colored has joined the market (6). This new type of rainbow stainless steel crown has shown to have similar strength, adaptability, and resistance when compared to uncolored stainless steel crowns (6). The aim of this study will be to determine whether parents of patients ages 2-12 would consider rainbow stainless steel crowns an appropriate treatment option and determine a possible preference for them in terms of esthetics when compared to silver stainless steel crowns. This study would be beneficial when it comes to providing different esthetic options to parents that prefer the cost-effective option of stainless steel crowns

Survey Data:



Results:

- Sample size included 34 eligible parent participants who completed the survey
- Demographics collected from survey:
 - Age of parents: most were aged 30-35 (47.1%)
 - Ethnicity: Majority Hispanic (50%)
 - Education: most had high school diploma (50)
 - Respondent: Typically the mother (76.5%)
 - Child age: Most common age range was 5-7 years
- Crown Preference
 - 54.5% preferred silver over rainbow which was 45.5%
- Reasons for Preference of Silver
 - 73.7% preferred silver due to solid color
 - 21.1% preferred silver due to belief that their child would not like it after some time
- Reasons for Preference of Rainbow
 - 75% chose rainbow crown due to child enjoyment
 - 18.8% preferred rainbow crowns as an esthetic option
- Statistical Analysis:
 - Chi Square: No sig assoc between preference between silver and rainbow
 - Tend of parents with male children preferring silver and parents of female children preferring

Conclusion

- Parental Preference:** Parents preference is divided with outside factors driving decision-making. Rainbow crowns may be a viable option depending on esthetic concerns of parent.
- Mixing Crowns:** Parents were divided in terms of whether to mix color of crowns
- Ethnicity:** There was no significant association between ethnicity and preference of crown
- Sex of Child:** Rainbow crowns were primarily preferred for parents of female patients compared to males
- Sex of Parent:** Fathers were less likely to prefer the rainbow crowns than mothers of patients.
- Pricing:** Price difference of \$50 between crowns may influence preference. However, a significant portion of parents (38.2%) stated that price did not affect their preference as well.
- Further Studies:** Expand sample size to improve reliability and clarify survey design to allow for more precise answers. Study whether parents would prefer other solid colors of crowns.

References:

